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RASHID, DAVID				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/501,253

Applicant(s)

FRANZ, MATTHIAS

Examiner

DAVID P. RASHID

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-17 and 19-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15, 17, 19-24, 26-29, 31-34 and 36 is/are rejected.
- 7) ☒ Claim(s) 16, 25, 30 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

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Amendments & Claim Status

[1] This office action is responsive to the Amendment After a Final Office Action received on Mar. 2, 2009. Claims 11-17 and 19-36 remain pending.

If applicant's arguments are persuasive and the examiner determines that the previous rejection should be withdrawn but that, upon further consideration, a new ground of rejection should be made, form paragraph 7.38.02 may be used. See MPEP § 706.07(a) to determine whether the Office action may be made final.

M.P.E.P. § 707.07(e).

Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims, nor based on information submitted in an information disclosure statement filed during the period set forth in 37 C.F.R. § 1.97(c) with the fee set forth in 37 C.F.R. § 1.17(p)

M.P.E.P. § 706.07(a).

Applicant's request for reconsideration of the rejection of the last Office action dated Nov. 4, 2008 is persuasive (see Response to Arguments below) and, therefore, the finality of that action is withdrawn.

Response to Arguments

[2] Remarks filed August 18, 2008 with respect to claims 11-17 and 19-36 have been respectfully and fully considered, and are found persuasive.

Summary of Remarks regarding Rejections under 35, U.S.C. § 102

It is believed and respectfully submitted that the Stam reference does not identically disclose (or even suggest) the feature that *the image sensor is focused on an external region beyond the vehicle such that a visual obstruction on the vehicle is imaged*, as provided for in the context of claims 11 and 19. . . . Thus, the Stam reference describes a system directly contrary to the present claims. That is, objects on the windshield are sharply focused in the Stam reference, whereas a visual obstruction on the vehicle is imaged in the present claims.

Further, the Final Office Action at page 3 asserts that "sharp focus on specific areas of moisture on the windshield gives less focus on everything else, including (i) the glass windshield, thus the glass windshield [is] imaged ...; and (ii) other areas of moisture on the windshield not in sharp focus, thus the other areas of moisture on the windshield [are] imaged." . . . Thus, the Stam reference describes that the Windshield and objects on the windshield are sharply in focus, which is directly contrary to the Office's unsupported assertions that the windshield and others areas on the windshield are imaged, as provided for in the context of the presently claimed subject matter.

...

However, in this regard, the Substitute Specification makes plain throughout that "focus" does not refer merely to a direction in which the sensor is pointed, but instead refers to the difference between a focused image and a blurry image. Specifically, the Substitute Specification states that "[t]he method described below may be used in video sensor systems in motor vehicles, which systems are not focused on the vehicle windshield, but rather on the external region." (Substitute Specification, p. 2, lines 10 to 12 (emphasis added)).

According to the interpretation of the Final Office Action, which is not conceded by the Applicant, the term "focus" merely means a direction in which the sensor is pointed.

Summary of Remarks regarding Rejections under 35, U.S.C. § 102

Examiner's Response

Applicant's arguments with respect to claims 11-17 and 19-36 have been considered and found persuasive with respect to a reasonable interpretation of "focus". Applicant's arguments are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 U.S.C. § 112

[3] In response to the Remarks received on Mar. 2, 2009, the previous § 112 rejections are withdrawn.

Claim Rejections - 35 U.S.C. § 102

[4] The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Chen

Claims 11-12, 14-15, 19-21, and 23-24 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,160,369 (issued Dec. 12, 2000, hereinafter “Chen”).

Regarding **claim 11**, *Chen* discloses a method (“second operation mode” at 2:3-4) for recognizing a visual obstruction (fig. 3, item F1) using an image sensor (fig. 3, item 12) associated with a vehicle (fig. 3, item F), comprising:

recording an image (“[s]ome images have focus effects. . .” at 2:64-65 implies item 12 records images) by the image sensor (fig. 3, item 12), wherein the image sensor is focused on an external region beyond the vehicle (fig. 3, item C) such that a visual obstruction (fig. 3, item F1) on the vehicle (fig. 3, item F) is blurrily imaged (item F1 is blurrily imaged because item 12 is focusing on item C when the beam of light converge to C as depicted in the figure);

analyzing the image (“[s]ome images have focus effects. . .” at 2:64-65 implies item 12 records images) recorded by the image sensor (fig. 3, item 12), wherein at least one of a presence and a type of a visual obstruction (fig. 3, item F1) is determined by the analysis of the image (“[s]ome images have focus effects. . .” at 2:64-65 implies item 12 records images), wherein the analysis includes measuring a blurriness (the blurriness caused by item F1) of at least a portion of the image;

producing a signal ("YES" and "NO" from " $D > B$ " and " $X_{ke} < Y_{ke} - a$ " at fig. 5) which indicates one of the presence and the type ("level of cleanness", "amount of rainwater" at 4:39-48) of the visual obstruction (fig. 3, item F1); and

controlling downstream systems ("DISPENSING WATER AND WIPING OFF RAINWATER" and "WIPING OFF RAINWATER" at fig. 5) based on the signal.

Regarding **claim 12**, *Chen* discloses the method of claim 11, wherein the at least one of the presence and the type ("level of cleanness", "amount of rainwater" at 4:39-48) of the visual obstruction (fig. 3, item F1) is determined by measuring a relative blurriness of different parts ("[t]aking the values of pixels" at 3:4) of the image ("[s]ome images have focus effects. . ." at 2:64-65 implies item 12 records images).

Regarding **claim 14**, *Chen* discloses wherein the at least one of the presence and the type ("level of cleanness", "amount of rainwater" at 4:39-48) of the visual obstruction (fig. 3, item F1) is determined based on a measured distribution of the blurriness (fig. 5, item D) by comparison with reference distributions (fig. 5, item B)

Regarding **claim 15**, *Chen* discloses wherein an analysis of at least one image ("INPUT X_{ij} " at fig. 5) recorded after an initial wiping operation ("DISPENSING WATER AND WIPING OFF RAINWATER" and "WIPING OFF RAINWATER" at fig. 5) on a windshield (fig. 3, item F) of a motor vehicle is used to determine whether to initiate a next wiping operation ("the water dispenser system or wiper system can be timely activated to remove muddy spots on windshield" at 4:40-43 meaning the wiper system is timed, each next wiping operation thus dependent on the image INPUT X_{ij} that initiated it).

Regarding **claim 19**, claim 11 recites identical features as in claim 19. Thus, references/arguments equivalent to those presented above for claim 11 are equally applicable to claim 19.

Regarding **claim 20**, *Stam et al.* discloses the device of claim 19, wherein the signal ("YES" signal of fig. 5) is used to control at least one of windshield wipers ("WIPING OFF RAINWATER" at fig. 5 involves windshield wipers), windshield heating systems, and windshield washer systems.

Regarding **claim 21**, claim 12 recites identical features as in claim 21. Thus, references/arguments equivalent to those presented above for claim 12 are equally applicable to claim 21.

Regarding **claim 23**, claim 14 recites identical features as in claim 23. Thus, references/arguments equivalent to those presented above for claim 14 are equally applicable to claim 23.

Regarding **claim 24**, claim 15 recites identical features as in claim 24. Thus, references/arguments equivalent to those presented above for claim 15 are equally applicable to claim 24.

Claim Rejections - 35 U.S.C. § 103

[5] The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Chen in view of Stam et al.

Claims 13, 17, 22, 26-29, 31-34, and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination between *Chen* in view of U.S. Patent No. 5,923,027 (issued Jul. 13, 1999, hereinafter “*Stam et al.*”).

Regarding **claim 13**, while *Chen* discloses the method of claim 11, *Chen* does not disclose wherein the blurriness is measured based on one of a contrast spectrum of the image, a Fourier spectrum, and an autocorrelation function of the image.

Stem et al. teaches wherein blurriness is measured based on one of a contrast spectrum of the image, a Fourier spectrum (“LAPLACIAN” in item 48 of fig. 5; equation (1) being the Fourier also used), and an autocorrelation function of the image.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the blurriness of *Chen* to be measured based on one of a contrast spectrum of the image, a Fourier spectrum, and an autocorrelation function of the image as taught by *Stem et al.*

“to provide a system for automatically detecting moisture on the windshield of a vehicle during common climatic conditions, such as rain, snow and fog.” *Stem et al.* at 2:47-51.

Regarding **claim 17**, while *Chen* discloses the method of claim 11, *Chen* does not disclose turning on a windshield light if a scene has a contrast below a predetermined threshold.

Stem et al. teaches turning on a windshield light if a scene has a contrast below a predetermined threshold (Col. 9:56-67 wherein the contrast is “dark conditions” as opposed to normal).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of *Chen* to include turning on a windshield light if a scene has a contrast below a predetermined threshold as taught by *Stem et al.* “to provide a system for automatically detecting moisture on the windshield of a vehicle during common climatic conditions, such as rain, snow and fog.” *Stem et al.* at 2:47-51.

Regarding **claim 22**, claim 13 recites identical features as in claim 22. Thus, references/arguments equivalent to those presented above for claim 13 are equally applicable to claim 22.

Regarding **claim 26**, claim 17 recites identical features as in claim 26. Thus, references/arguments equivalent to those presented above for claim 17 are equally applicable to claim 26.

Regarding **claim 27**, claims 13 and 20 recite identical features as in claim 27. Thus, references/arguments equivalent to those presented above for claims 13 and 20 are equally applicable to claim 27.

Regarding **claim 28**, claim 12 recites identical features as in claim 28. Thus, references/arguments equivalent to those presented above for claim 12 are equally applicable to claim 28.

Regarding **claim 29**, claim 14 recites identical features as in claim 29. Thus, references/arguments equivalent to those presented above for claim 14 are equally applicable to claim 29.

Regarding **claim 31**, claim 17 recites identical features as in claim 31. Thus, references/arguments equivalent to those presented above for claim 17 are equally applicable to claim 31.

Regarding **claim 32**, claims 13 and 20 recite identical features as in claim 32. Thus, references/arguments equivalent to those presented above for claims 13 and 20 are equally applicable to claim 32.

Regarding **claim 33**, claim 12 recites identical features as in claim 33. Thus, references/arguments equivalent to those presented above for claim 12 are equally applicable to claim 33.

Regarding **claim 34**, claim 14 recites identical features as in claim 34. Thus, references/arguments equivalent to those presented above for claim 14 are equally applicable to claim 34.

Regarding **claim 36**, claim 17 recites identical features as in claim 36. Thus, references/arguments equivalent to those presented above for claim 17 are equally applicable to claim 36.

Allowable Subject Matter

[6] **Claims 16, 25, 30, and 35** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

[7] The following is a statement of reasons for the indication of allowable subject matter:

Regarding **claim 16**, while the prior art discloses wherein an analysis of at least one image recorded after an initial wiping operation on a windshield of a motor vehicle is used to determine whether to initiate a next wiping operation, the prior art does not disclose wherein the determination regarding the next wiping operation is based on blurriness of a first image that was recorded immediately after the initial wiping operation in comparison to blurriness of an image recorded subsequent to the first image. Claims 25, 30, and 35 are allowable by analogy.

Conclusion

[8] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 6555804 B1; and US 6841767 B2.

[9] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 C.F.R. § 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

[10] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578 and fax number (571)270-2578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

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